

SECURITY OF U.S. NUCLEAR WEAPONS AND NUCLEAR WEAPONS FACILITIES

HEARING BEFORE THE SUBCOMMITTEE ON STRATEGIC OF THE COMMITTEE ON ARMED SERVICES UNITED STATES SENATE ONE HUNDRED SEVENTH CONGRESS FIRST SESSION

DECEMBER 13, 2001

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THURSDAY, DECEMBER 13, 2001

U.S. SENATE,
SUBCOMMITTEE ON STRATEGIC,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:35 p.m. in room SR-222, Russell Senate Office Building, Senator Jack Reed (chairman of the subcommittee) presiding.

Committee members present: Senators Reed, Ben Nelson, Allard, and Sessions.

Committee staff member present: Madelyn R. Creedon, counsel.

Minority staff members present: L. David Cherington, minority counsel; and Brian R. Green, professional staff member.

Staff assistants present: Dara R. Alpert and Thomas C. Moore.

Committee members' assistants present: Barry Gene Wright, assistant to Senator Byrd; Marshall A. Hevron, assistant to Senator Landrieu; Elizabeth King, assistant to Senator Reed; Davelyn Noelani Kalipi, assistant to Senator Akaka; Eric Pierce, assistant to Senator Ben Nelson; Wayne Glass, assistant to Senator Bingaman; Margaret Hemenway, assistant to Senator Smith; and Arch Galloway II, assistant to Senator Sessions.

OPENING STATEMENT OF SENATOR JACK REED, CHAIRMAN

Senator REED. Good afternoon. Let me call this hearing to order. I'd like to welcome our witnesses. Today the Strategic Subcommittee meets to receive testimony and discuss a matter of great importance to United States national security interests, the security of United States nuclear weapons. While the security of nuclear weapons has always been a high priority, since September 11 we have become even more cognizant of the importance of ensuring that these weapons remain secure.

In this hearing we will cover all aspects of nuclear weapons security, including personnel security, the physical security of sites, security during transportation, emergency response capabilities, and the security features of nuclear weapons themselves. This hearing will start in open session. At the conclusion of the witnesses' statements and one round of questions, we will proceed to room 232A of the Russell Building for a closed session.

Our witnesses this morning represent all elements of the nuclear weapons complex. They are: Dr. Linton Wells, Principal Deputy Assistant Secretary of Defense for Command, Control, Communications, and Intelligence; Maj. Gen. Franklin J. Blaisdell, Director of

Nuclear and Counterproliferation, Office of the Deputy Chief of Staff for Air and Space Operations, U.S. Air Force; RADM Dennis M. Dwyer, Director of Strategic Systems Program Office, U.S. Navy; and Brig. Gen. Ron Haeckel, U.S. Air Force, Acting Deputy Administrator for Defense Programs, National Nuclear Security Administration.

Security associated with nuclear weapons has, by necessity, always been high. Today, we would like to discuss all aspects of the security of U.S. nuclear weapons, but particularly the impact of September 11 on the approach to nuclear weapons security. I would like each of the witnesses to discuss what improvements have been made since September 11, what improvements still need to be made, what is needed to carry out these improvements, and whether these identified improvements are enough to maintain high security for these weapons.

The Department of Energy (DOE) and the National Nuclear Security Administration (NNSA) have requested an additional \$118 million for increased nuclear security requirements. I would like to discuss this request and also discuss whether there are additional needs in the Air Force or the Navy. I would like to welcome each of you to the subcommittee today and we look forward to hearing from you on this important issue.

I expect that we will be joined shortly by my colleague, the ranking member, Senator Allard of Colorado. When he does arrive, I would interrupt the witnesses to allow Senator Allard to give his statement. But at this point, I would like to recognize Dr. Wells. Your statement will be made a part of the record, Dr. Wells.

STATEMENT OF DR. LINTON WELLS II, PRINCIPAL DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE

Dr. WELLS. Mr. Chairman, thank you very much. I appreciate the opportunity to speak today, to talk about the Department of Defense's policies and procedures for ensuring the security of nuclear weapons in our custody. I've submitted a written statement for the record, as you've noted. Because of their destructive power and their political as well as their military importance, nuclear weapons require special protection, indeed the highest level of protection that we can provide. The storage, handling, transportation, and maintenance of nuclear weapons are grave responsibilities the Department takes very seriously. This has never been more important than now, in light of the events of the September 11 terrorist attacks against the United States.

Within the Office of the Secretary of Defense (OSD), my office is responsible for the policies that provide for the physical protection of nuclear weapons, and for the personnel reliability program. This ensures only the best qualified and most reliable people are selected to perform nuclear weapons related functions. The services who have physical custody of the weapons implement these policies, and the Office of the Joint Chiefs of Staff provides oversight through periodic inspections that are conducted through the Defense Threat Reduction Agency, or DTRA.

This is a system of overlapping, interlocking programs and procedures, defense in depth, if you will, whose resultant security is

greater than the sum of its parts. These are our highest priority weapons, and they receive the highest level of protection. I provided additional information in my written statement and welcome your questions.

[The prepared statement of Dr. Wells follows:]

PREPARED STATEMENT BY DR. LINTON WELLS II

Mr Chairman, and members of the subcommittee, I want to thank you for giving me the opportunity to discuss with you today the Department of Defense's (DOD) policies and procedures for ensuring the security of nuclear weapons in our custody. I commend you for conducting this hearing and for assembling a panel that can provide both a policy and an operational picture to the subcommittee.

Because of their destructive power and political as well as military importance, nuclear weapons require special protection—the highest level of protection we can provide. The storage, handling, transportation, and maintenance of nuclear weapons are grave responsibilities that the Department takes very seriously. This has never been more important than now in light of the events of the September 11 terrorist attacks against the United States.

Within the Office of the Secretary of Defense, the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence is responsible for the policies that provide for the physical protection of nuclear weapons and for DOD's Personnel Reliability Program (PRP), that ensures only the best qualified and most reliable personnel are selected to perform nuclear weapons-related functions. The Services, who have physical custody of the weapons, implement these policies and the Office of the Joint Chiefs of Staff provides oversight through periodic inspections conducted by a team of experts assigned to the DTRA.

While I will concentrate today on the physical protection of weapons, it is useful to understand that nuclear weapons are afforded both significant and overlapping safety and security protections. It is well understood that redundant and failsafe capabilities are designed and built into our nuclear weapons. This means they are built to function as designed only when all the right electrical and environmental inputs are 100 percent accurate. This design philosophy also contributes to these weapons' security by providing additional protections against unauthorized use.

The protection of nuclear weapons is achieved through a system of complementary programs, procedures, people, infrastructure, equipment, and oversight. It is a defense-in-depth approach that seeks to deter any potential attacker; however, should that deterrence fail, the system is designed to identify a threat as early and as far away from a weapon as possible, and then interdict it such that it is never in a position to sabotage, destroy, steal, or detonate a nuclear weapon.

Nuclear weapons are stored in hardened facilities with very strong doors, and high security locks and hasps. Protecting those structures are combinations of electronic intrusion detection systems, both on the buildings themselves and installed along the perimeter of the storage site. These systems are continuously monitored by highly trained and heavily armed security forces that can interdict any attempt to penetrate the site. Assisting these forces are special lighting, visual assessment tools, and other capabilities designed to ensure the protective force maintains the combat effectiveness edge over any attacker.

When nuclear weapons are moved, the same tight security goes with them, whether we move them ourselves or they are delivered to us by the Department of Energy.

Complementing these physical aspects of security are special procedural, personnel, and oversight programs designed to ensure that only the most reliable people are chosen to work around nuclear weapons. No person is ever allowed to work alone on or close to a nuclear weapon. Two people with an equal knowledge of the job to be performed must be present before any access to a weapon. The people who are chosen to be in the nuclear weapons program must undergo strict, comprehensive and recurring vetting to ensure reliability is maintained at the highest level. Top-level background investigations are conducted; some, in critical positions, will undergo a periodic polygraph examination; all will have personnel records reviewed for administrative or disciplinary issues; all will have a medical screening to include a records assessment by trained medical personnel to identify physical or psychological conditions that may adversely affect the inability to work with nuclear weapons. This reliability program seeks to maintain these standards through continuous evaluation by supervisors and peers alike. Any indication of a problem and the person is removed from duties involving weapons until the situation can be adjudicated. On top of this are strictly enforced entry control and access procedures requiring specialized identification media and verification controls. Overlooking the entire pro-

gram is an integrated inspection and assessment process that seeks to ensure we meet and maintain the highest nuclear security standards.

The Department uses a system of complementary oversight and inspection processes. To provide oversight independent of the Services, the Joint Chiefs of Staff operates the Defense Nuclear Surety Inspection (DNSI) Program, through the DTRA. DNSIs are conducted for each nuclear capable organization a minimum of once every 5 years. In addition, the Services are required to inspect each of their organizations to the same strict level of compliance at least once every 18 months. The organizations themselves are required to annually conduct actual, on-the-ground, force-on-force exercises that pit security forces against a mock terrorist force and, periodically, my office along with DTRA conducts exercises to verify whether our protective policies provide the level of security necessary to deal with the changing threat environment. We use the results of these exercises and assessments to help us identify problem areas and develop new security policy.

This is a system of overlapping and interlocking programs and procedures whose resultant security is greater than the sum of its parts. These are our highest priority weapons and they receive the highest level of protection.

From time to time, we conduct additional reviews of our methods of protecting nuclear weapons. The Nuclear Command and Control System Support Staff (NSS) periodically assesses the health of the system. The NSS currently is providing support to a Federal Advisory Committee, end-to-end review of the entire system. The assessment is chaired by Lt. Gen. (Ret.) Brent Scowcroft, former National Security Advisor, and is comprised of seven commissioners selected for their present or recent past association with nuclear weapons. I am a member of the committee and will soon participate in reviewing the final report. I apologize in advance that I am not at liberty to discuss the findings of the committee until they are approved by General Scowcroft.

Mr. Chairman, thank you again for this opportunity to address this very important matter. I will be pleased to answer any questions you may have.

Senator REED. Thank you very much, Secretary Wells. Now I'd like to call on Major General Blaisdell for his comments. General.

STATEMENT OF MAJ. GEN. FRANKLIN J. BLAISDELL, DIRECTOR, NUCLEAR AND COUNTERPROLIFERATION, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR AIR AND SPACE OPERATIONS, U.S. AIR FORCE

General BLAISDELL. Mr. Chairman, thank you for the opportunity to speak to you today about the Air Force's nuclear security program. In the interest of time I've submitted a formal written statement for the record but will summarize my comments here.

From the most senior levels of Air Force leadership to the airmen in the field, Air Force personnel understand the tremendous responsibility associated with the safety and security of handling nuclear weapons. There is no higher Air Force priority than maintaining the surety of our nuclear weapons, due to the tremendous military importance and the potential consequences of any accident, incident, or unauthorized act.

Accordingly, we've established comprehensive operational and oversight procedures to ensure that nuclear weapons and weapon systems receive special consideration. During all phases of the weapon system lifecycle, positive measures are taken to ensure the complete control of nuclear weapons. Security, one part of nuclear surety, is carefully considered during each phase of the research, development, acquisition, and modernization of our existing systems.

The Air Force's four critical elements of physical security are: selection and use of the personnel; two-person policy; security procedures and equipment; and security system concepts.

For personnel selection, the screening and selection process uses the nuclear weapon Personal Reliability Program (PRP), and we accept only the most reliable personnel who are individually certified to work nuclear-related duties by their unit commander or other senior official. Commanders, supervisory medical personnel, and peers continuously monitor personnel working under the PRP to ensure continued compliance with the PRP standards.

The two-person policy mandates the presence of a minimum of two authorized persons during any operation that may require access to nuclear weapons. Each member is capable of detecting incorrect or unauthorized procedures with respect to the task being performed, and each member is familiar with the applicable safety and security requirements.

Security procedures and equipment, such as the intrusion detection systems, and security force personnel ensure positive identification and control of all persons entering areas where nuclear weapons are present.

Finally, security system concepts are designed to provide deterrence, detection, and denial of individuals who are not authorized access to a nuclear weapon.

To quickly summarize, the Air Force has successfully managed its nuclear surety and safety programs for 54 years and fully recognized the need to continually monitor and improve our nuclear safety and security processes in response to dynamic global threats. As you mentioned, the tragedy of September 11 reminds us of this threat and the vulnerabilities to our nuclear weapons systems.

Since September 11, we have implemented higher force protection levels across the Air Force, and committed Air Force assets to around-the-clock combat air patrols (CAPs) over the continental United States (CONUS). We've increased base and controlled area entry inspections and security checks, restricted nuke weapons movements to those necessary to keep the force Single Integrated Operational Plan (SIOP) ready. We've also limited nuclear weapons maintenance and movements to daylight hours, and increased our security force presence during those operations. Additionally, we've added armed aerial support. We will continue to work on long-term solutions to deter and counter these threats.

There is no room for sub-standard performance when dealing with nuclear weapons, and we have in place a layered approach of checks and balances to ensure strict compliance. From our overarching procedural guidance to our systems assessment programs, personnel screening, and comprehensive surety inspection programs, the Air Force aggressively monitors all facets of security compliance. While there are still challenges, effective intelligence gathering, system vulnerability assessments, responsive improvement programs, improved communication links, and dedicated Air Force professionals will all guarantee the security of our nuclear weapons. Thank you, Mr. Chairman.

[The prepared statement of Major General Blaisdell follows:]

PREPARED STATEMENT BY MAJ. GEN. FRANKLIN J. BLAISDELL, USAF

Mr. Chairman and members of the subcommittee, thank you for the opportunity to speak to you today about Air Force nuclear weapons security. Nuclear weapons continue to be at the center of U.S. National Security Policy. The Air Force fully understands the value of these weapons to America, and as such, affords them the

highest protection. From the most senior levels of leadership, to the airmen in the field, Air Force personnel understand the tremendous responsibility associated with safely and securely handling nuclear weapons. Accordingly, the Air Force has established comprehensive operational and oversight procedures to ensure nuclear weapons and weapon systems receive special consideration due to their national policy implications. Due to their military importance, their destructive power, and the potential consequences of an accident, incident, or unauthorized act, there is no higher Air Force priority than maintaining the surety of our nuclear weapons.

BACKGROUND

DOD policy specifies four DOD Nuclear Weapon System Safety Standards to serve as the foundation for all nuclear weapons safety matters: (1) There shall be positive measures to prevent nuclear weapons involved in accidents or incidents, or jettisoned weapons, from producing a nuclear yield; (2) There shall be positive measures to prevent deliberate prearming, arming, launching, or releasing of nuclear weapons, except upon execution of emergency war orders or when directed by competent authority; (3) There shall be positive measures to prevent inadvertent prearming, arming, launching, or releasing of nuclear weapons in all normal and credible abnormal environments; and (4) There shall be positive measures to ensure adequate security of nuclear weapons, under DOD Directive 5210.41.

It is DOD policy to protect nuclear weapons from loss, theft, sabotage, unauthorized use, and unauthorized or accidental damage or destruction. This policy is based on a peacetime environment. While adherence to prescribed security procedures during wartime may be impractical, particularly in a combat theatre, the same peacetime philosophy for protecting nuclear weapons remains in effect. However, in times of transition to war and during wartime, commanders are expected to use those resources available to them to provide security for weapons and to ensure their survivability.

Nuclear weapons require special protection because of their political and military importance, their destructive power, and the consequences of an unauthorized deliberate or inadvertent prearming, launching, firing, or detonation. Nuclear weapons must not be subjected to adverse physical environments except when such exposure is dictated by operational requirements. The safety of the public, operating personnel and property, the protection of weapons from capture, theft, damage, and unauthorized use or loss are all of paramount importance during all phases of operations involving nuclear weapons.

Positive measures are taken to ensure the complete physical control of nuclear weapons during all phases of their life cycle. To ensure a balanced security system, physical security procedures, forces, and facilities must be combined. Survivability must be a significant consideration in the design of a security system. In providing protection for nuclear weapons, accurate assessments must be made of all relevant factors including: weapon location, the configuration in which they are maintained, the nature and capabilities of potentially hostile forces, and the reliability and capabilities of personnel responsible for working with or protecting them.

Security is considered early during the research, development, and acquisition of nuclear weapon systems and the modernization and updating of our existing systems. DOD components participating in the acquisition and development process for new or modernized systems must get a security concept of operations approved by the Under Secretary of Defense for Policy.

Physical security requirements have a major impact on the affordability and life-cycle costs of a nuclear weapon system. Similarly, modernization or product improvement efforts on existing systems must include reevaluation of system security provisions early in the process to assess the utility of new technology and to determine changing security requirements because of changes in deployment mode, location of the systems, or other factors.

AIR FORCE RESPONSIBILITIES

DOD guidance (DOD Directive 3150.2, *DOD Nuclear Weapon System Safety Program*) mandates the Air Force assume the following responsibilities: (1) Ensuring the safety and security of all nuclear weapons and nuclear weapon systems for which the Air Force has a DOD life-cycle management responsibility; (2) Conducting nuclear weapon system safety studies, reviews, and safety assessments on U.S. nuclear weapons and Allied systems using U.S. nuclear weapons to support the DOD Nuclear Weapon System Safety Program; (3) Ensuring nuclear weapons technical inspections are conducted; (4) Establishing safety design and evaluation criteria for nuclear weapon systems; (5) Conducting safety certifications of nuclear weapon systems, including DOD support equipment and software that affects nuclear safety;

and (6) In coordination with the Defense Threat Reduction Agency (DTRA), participating in a joint Service working group to define requirements for the maintenance of nuclear weapon safety databases.

SAFETY AND SECURITY OF ALL NUCLEAR WEAPONS AND NUCLEAR WEAPON SYSTEMS

In planning the security system for nuclear weapons, priority of efforts and resources are given to the protection of nuclear weapons themselves. Additional security is commensurate with the threat to or vulnerability of the weapons, space limitations, and environmental factors. In order to ensure the safety and security of our nuclear weapons and nuclear weapons systems the Air Force focuses on four critical elements of physical security; (1) Selection and use of personnel, (2) Two-person policy, (3) Security procedures and equipment, and (4) Security system concepts.

SELECTION AND USE OF PERSONNEL

Personnel associated with and directly influencing the security of nuclear weapons are classified as command and supervisory, operational, security, support, and maintenance. Individuals are selected for these positions after extensive screening. The personnel screening and selection process, as well as the requirement for a continuing evaluation by supervisors and co-workers, is detailed in DOD Directive 5210.42 *Nuclear Weapon Personnel Reliability Program*. The screening process used in the Personnel Reliability Program (PRP) ensures all individuals are of the utmost reliability and personally certified to work nuclear related duties by their unit commander or other senior official. Certification may occur after completion of a formal course of instruction or experience gained by on-the-job training. All personnel having access to nuclear weapons shall have a security clearance commensurate with the level of classification of materials to which they may have access.

TWO-PERSON POLICY

Under the two-person policy, no one individual shall have access to a nuclear weapon. During any operation that may require access to nuclear weapons, there is a minimum of two authorized persons, each capable of detecting incorrect or unauthorized procedures with respect to the task to be performed and familiar with applicable safety and security requirements. Two authorized personnel are physically positioned where they can detect incorrect or unauthorized procedures with respect to the task or operation being performed. When application of the two-person policy is required, it is enforced by the persons who constitute the team during the entire period they are accomplishing the task or operation assigned and until they leave the area within which the two-person policy is required.

SECURITY PROCEDURES AND EQUIPMENT

Intrusion detection systems and security force personnel ensure positive identification and control of all persons entering limited and exclusion areas. Entry control procedures ensure no lone individual is permitted in an exclusion area or to have access to a nuclear weapon. In addition, maintenance or crew personnel, making up a two-person team with a designated sole vouching authority, verify all entries into the exclusion area.

SECURITY SYSTEM CONCEPTS

Security for nuclear weapons is provided by in-depth systems that provide deterrence, detection, delay, and denial of individuals who are not authorized access to a nuclear weapon. These same systems provide protection from damage attempts including standoff attacks. Security systems are designed in response to actual validated threats or postulated threats that may arise as adversary intentions develop.

Detection is accomplished through physical or electronic measures that detect possible threats to nuclear weapons at the earliest possible point when an attempt or the preparation for an attempt to penetrate the system is being made. Delay consists of active and/or passive security measures using either equipment or personnel, or a combination of both, to inhibit intruders from reaching their objective. Denial is the ultimate goal of delay and is the nullifying, repulsing, or termination of an attack. Essential to the proper operation of security systems are: assessment measures to determine the size and intention of an unauthorized intrusion, response by security forces specifically designated and trained for countering intruders, and diverse and redundant communications to ensure command and control.

The efficient installation and operation of the security system, including the training and exercising of response forces, is sufficiently imposing to deter potential attacks. Deterrence is the first line of defense, but it is only effective when supported

by an active, operational security system. Consequently, security forces are trained, as they would be expected to be employed. Such training includes, at a minimum, use of individual and crew-served weapons, small unit tactics, and annual force-on-force exercises.

NUCLEAR WEAPON SYSTEM SAFETY STUDIES, REVIEWS, AND SAFETY ASSESSMENTS

The Air Force safety review process is mandated by Air Force Instruction 91-102 *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*. This instruction provides guidelines to ensure nuclear weapons are designed, maintained, transported, stored, and operated in a safe and secure manner. The Air Force supports these goals by: convening the Nuclear Weapons System Safety Group (NWSSG) to evaluate nuclear weapon systems, proposing nuclear weapon system safety rules for Secretary of Defense (SECDEF) approval, conducting Technical Nuclear Safety Analysis (TNSA), and conducting Nuclear Surety Inspections according to Air Force Instruction 90-201, *Inspector General Activities*.

NWSSG FUNCTIONS

The NWSSG reviews nuclear weapon system designs and operations to determine if they meet the DOD Nuclear Weapon System Safety Standards and proposes safety rules and recommends changes to improve nuclear weapon system surety.

NUCLEAR SURETY INSPECTIONS (NSI)

NSIs are designed to evaluate a unit's capability to manage nuclear resources while complying with all nuclear surety requirements. An NSI may be combined with other MAJCOM inspections to reduce the number of unit inspections.

NSIs are conducted at each nuclear-capable unit at least every 18 months. NSI requirements must be completed within 18 months after completing the last NSI. The nuclear capable unit is provided the NSI rating when all phases are completed. If a unit does not meet the 18-month inspection requirement and is not granted a waiver, they will be decertified. MAJCOM commanders will ensure nuclear weapons are maintained in a safe, secure, and reliable environment until the unit is recertified. Recertification must be accomplished by conducting an Initial NSI. Units may be selected at the discretion of the MAJCOM IG to receive a minimum notice inspection that will key on a unit's ability to perform its nuclear mission.

Units are rated in 13 functional areas: Management and Administration; Technical Operations; Tools, Test, Tiedown and Handling Equipment; Storage and Maintenance Facilities; and Condition of Stockpile; Security; Safety; Personnel Reliability Program Management; Logistics Movement; Explosive Ordinance Disposal; Nuclear Control Order Procedures; Emergency Evacuation Denial and Command Disablement; Use Control; and Supply Support. If the unit is rated "Unsatisfactory" under pass/fail criteria, it may be reinspected prior to inspection team's departure. If the unit is not reinspected to at least a "Satisfactory" level, the inspected unit must discontinue that portion of its operation until reinspected or corrective measures are implemented and approved by the MAJCOM commander pending reinspection. A reinspection (NSI or INSI) will be conducted within 90 calendar days for units rated "Unsatisfactory" that do not achieve an overall "Satisfactory" rating on an on-the-spot reinspection.

ENSURING NUCLEAR WEAPONS TECHNICAL INSPECTIONS ARE CONDUCTED

Air Force Instruction 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*, mandates the requirement for Technical Nuclear Safety Analysis (TNSAs). Prepared by the Nuclear Weapons Product Support Center, a TNSA is an independent technical analysis of the nuclear weapon system. Personnel who prepare the TNSA may not represent organizations directly responsible for designing, developing, producing, maintaining, operating, or providing logistics for the weapon system under evaluation.

TNSAs describe the weapon system in depth, ensures compliance with DOD Nuclear Weapon System Safety Standards in normal and abnormal environments, provides engineering analysis of the weapon system design, identify deficiencies, and recommend corrective actions for the weapon system to comply with AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapon Systems*, or DOD Directive 5210.41, *Security Policy for Protecting Nuclear Weapons*. TNSAs also assess physical security features planned for the weapon system, identify security deficiencies, and propose necessary corrective actions. The analysis also includes a qualitative risk assessment of the weapon's likelihood of violating any of the DOD Nuclear Weapon System Safety Standards or causing plutonium scatter.

SAFETY DESIGN AND EVALUATION CRITERIA FOR NUCLEAR WEAPON SYSTEMS

DOD Nuclear Weapon System Safety Standards form the basis for the Air Force's nuclear weapon system safety design and evaluation criteria. Because the Air Force's goal is to design a system that significantly exceeds the basic safety criteria, the weapon system designer may add reasonable safety features to improve safety yet meet operational design requirements. The Air Force or the Department of Defense may prohibit or restrict operational use of a nuclear weapon system if the minimum safety criteria are not satisfied.

The Air Force Safety Center (AFSC) manages the nuclear safety design and evaluation program for the Air Force by developing design and evaluation criteria, approving deviation requests, and identifying criteria for, and approving troubleshooting and maintenance procedures and operations on loaded nuclear weapon systems.

SAFETY CERTIFICATIONS OF NUCLEAR WEAPON SYSTEMS, SUPPORT EQUIPMENT, AND SOFTWARE

Air Force Instruction 91-103, *Air Force Nuclear Safety Certification Program*, governs the Air Force's nuclear safety certification program. This program evaluates hardware, software, and procedures against specific nuclear safety criteria before use with nuclear weapons. The program's goal is to prevent nuclear weapon accidents and incidents.

The Air Forces certifies the following hardware and software: combat and non-combat delivery vehicles; operational and support equipment used to move, support, store, handle, load and unload, or mate and demate nuclear weapons; components that directly interface (electrically or physically), with a nuclear weapon, critical component, certified software, or are identified in a current launch activation path; items that could degrade the command, control, and status reporting capability; new and currently certified critical components and software; all hardware or software used to directly control critical functions such as targeting, enable, or launch commands or data generation; Tamper Detection Indicators (TDI) used in an operational system, as well as TDIs used in a non-operational environment for storage and transportation; operational and maintenance hardware and software used to command and control critical functions and perform status reporting; facility lifting and suspension systems (such as cranes, hoists, and suspended frames) used to lift, support, or move nuclear weapons; modifications to non-specialized equipment that could impact the item's primary structure, electrical and hydraulic power systems, load-bearing capacity, steering and braking capability, or positive control features; as well as any changes resulting in noncompliance with specific directed design criteria. Additionally, the Air Force certifies all test equipment that: verifies the proper operation of the critical function circuits of a combat delivery vehicle or directly interfaces with nuclear weapons or operationally certified critical components; operationally certifies, decertifies, or verifies proper operation of applicable nuclear certified items; or identifies system anomalies or failures in special test or maintenance programs.

COORDINATED EFFORT WITH THE DEFENSE THREAT REDUCTION AGENCY (DTRA), TO DEFINE REQUIREMENTS FOR THE MAINTENANCE OF NUCLEAR WEAPON SAFETY DATABASES

Per Air Force Instruction 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*, the Air Force in conjunction with DTRA, Department of Energy (DOE), and U.S. Strategic Command (as part of the NWSSG), reviews nuclear weapon system designs and operations to determine if they meet the DOD Nuclear Weapon System Safety Standards, proposes safety rules, and recommends changes to improve nuclear weapon system surety to the SECDEF for approval through the Joint Staff. Specifically, the NWSSG reviews weapon system modifications, changes in operational procedures, or proposed tests to determine if nuclear surety is affected. The NWSSG requests an Operational Plan Data Document (OPDD), or OPDD change, and schedules an NWSSG study when nuclear surety is affected. The NWSSG also serves as the Air Force focal point for DOE field reviews of nuclear weapon system safety rules. The NWSSG publishes a semiannual report containing the status of NWSSG recommendations due to Assistant to the Secretary of Defense, Nuclear & Biological Defense Programs (ATSD (NCB)) by the 1st of January and July with information copies to the Chairman Joint Chiefs of Staff (CJCS) and DOE. Finally, the NWSSG assigns an Air Force member to nuclear safety studies or operational safety reviews conducted by other military Services if the Air Force also uses the weapon system under evaluation.

SUMMARY

The Air Force has aggressively managed its Nuclear Surety and Safety Programs for the last 54 years. Nuclear weapons require special protection because of their political and military importance, their destructive power, and the consequences of an unauthorized deliberate or inadvertent prearming, launching, firing, or detonation. When dealing with nuclear weapons there is no room for substandard performance. The Air Force recognizes the need to continually monitor our nuclear safety and security processes in response to the dynamic global threat. There will be challenges in the future. Effective intelligence gathering, system vulnerability assessments, responsive improvement programs, communication, and dedicated Air Force professionals are the key. The partnerships we have with the other services, government agencies, and other stakeholders will be critical to our success. United, we can overcome these challenges and sustain our nuclear surety and security into the 21st century.

Senator REED. Thank you very much, General Blaisdell. Before calling Admiral Dwyer and General Haeckel, I'd like to recognize the ranking member, Senator Allard. Senator.

STATEMENT OF SENATOR WAYNE ALLARD

Senator ALLARD. Thank you, Mr. Chairman, for holding this very timely and critical hearing regarding the security of our nuclear weapons and our nuclear weapons facilities. I want to thank the panel for being willing to come and testify before the subcommittee. I appreciate the job that you're doing and want to hear what you have to say.

The events of September 11 have increased everyone's awareness of security, not just our own personnel security, but the security of our critical public and private infrastructures, including Department of Energy and Department of Defense facilities. However, this protection goes far beyond the physical infrastructure because of the inherent destructiveness and political importance of our nuclear weapons. The protection of these weapons has always been a top priority, and that is our focus today.

As has been widely reported, it is now apparent that terrorists are taking a keen interest in nuclear weapons and nuclear materials. The threat of nuclear terrorism, either through the acquisition of nuclear weapons, the construction of a radiological weapon, or a successful attack on a nuclear weapons facility or power plant, is one that we must take very seriously. Consequently, the attention given to the security of nuclear weapons and nuclear weapons facilities must be constant.

I hope this hearing will provide us with the background and insight we need while we consider future congressional action that might be useful in ensuring the safety and security of our weapons. Again, I thank you, Mr. Chairman, for holding this hearing, and I thank all the witnesses for taking time to be with us here today.

Senator REED. Thank you very much, Senator Allard.

Now Admiral Dwyer, your comments please.

**STATEMENT OF RADM DENNIS M. DWYER, DIRECTOR,
STRATEGIC SYSTEMS PROGRAM OFFICE, U.S. NAVY**

Admiral DWYER. Mr. Chairman, Senator Allard, thank you for this opportunity to address the subcommittee. As the director of the Navy's strategic systems, I'm responsible for the production, support, and security of our nuclear weapons ashore. Accompanying me today is Rear Adm. Charles Griffiths, who is the Com-

mander of Submarine Group 9. He is the commander of fleet ballistic missile submarines in the Pacific.

In the Navy, this is in general a good story. We do have significant challenges, but I can say with confidence that the Navy's nuclear weapons, which are a vital national asset, are safe and secure. In the Navy we have a policy to deny access by unauthorized personnel to our nuclear weapons. We have multiple perimeters for layered security. We also have recapture tactic teams available at all times as an added insurance.

From the moment we receive these weapons from the NNSA, they are stored in a high-security area called a limited area. This is surrounded by high-security fences and state-of-the-art electronic security systems and intrusion detection devices. This provides us the ability to monitor and detect any unauthorized attempt to breach this limited area.

Whenever the weapons are moved from building to building inside the area, they are enclosed in specially designed containers and vehicles that protect them from hostile environments. An important component of our nuclear weapons security is our Marine Corps security force. The sole responsibility of the Marine Corps security force is to prevent unauthorized access or theft of nuclear weapons, and should that fail, to immediately recapture them.

The second element of our security program is the ballistic missile submarine (SSBN) crew. They are responsible and trained to protect nuclear weapons while on board the submarine. In addition, these marines, sailors, and any Navy employee that performs a job that directly accesses nuclear weapons, are placed in our Personal Reliability Program. Any security program is dependent on meeting the system requirements, and you need a strong inspection, testing, and exercise program. We regularly inspect and drill our systems and people to ensure that they exceed the requirements needed to protect these national assets.

Prior to the attack on U.S.S. *Cole* in October 2000, the Navy was already taking positive steps to further improve the protection of our submarines at the two bases. We put in place a phased plan to provide additional security improvements over the next several years. The horrific events of September 11 highlighted additional potential threats and vulnerabilities of both our nuclear weapons and strategic submarines. Since then, measures that were planned to be executed as part of the increased threat condition have been implemented. These measures include: activation of auxiliary security forces, additional entry inspections, additional water front boat patrols, increased access control measures, and temporary over-flight restrictions.

We continue to work on long-term solutions to counter these threats. In summary, we have a robust nuclear weapons security system in place and we rigorously inspect and test that system. We continue to assess our vulnerabilities and we're making improvements to systems to counter potential new threats. It's for this reason I can tell you today that I have high confidence in the Navy's nuclear weapons security program. Thank you, Mr. Chairman.

[The joint prepared statement of Rear Admiral Dwyer and Rear Admiral Griffiths follows:]

JOINT PREPARED STATEMENT BY RADM DENNIS M. DWYER, USN, AND RADM
CHARLES H. GRIFFITHS, JR., USN

Thank you for inviting us to brief the subcommittee on the security provisions in place at our Navy nuclear weapons storage facilities and strategic submarine bases. As Director for the Navy's Strategic Systems Programs, I am responsible for production, support and storage of our nuclear weapons ashore. Accompanying me today is Rear Admiral Charles Griffiths, Commander, Submarine Group 9, the commander of the nuclear-powered ballistic missile submarines (SSBNs) in the Pacific. He will join me in briefing security at our SSBN bases in the next session. This is in general a good news story. We do have significant challenges, but I can say with confidence that Navy nuclear weapons, a vital national asset, are safe and secure.

These weapons are protected by a sophisticated system involving three components: unique facilities, specialized hardware, and highly trained people. I'd like to take a moment to describe each of these elements of our nuclear weapons security system.

In the Navy, we have a policy to deny access, by unauthorized personnel, to our nuclear weapons. We use multiple perimeters for layered security and also have Recapture Tactics Teams available at all times as added insurance. From the moment we receive these weapons from the National Nuclear Security Administration, they are stored in a high security area called a "limited area." The limited areas at both Strategic Weapons Facilities are encircled by high security fences and state-of-the-art electronic security systems. These systems are augmented by manned 70-foot-high guard towers, a suite of intrusion detection sensors, coupled with closed-circuit television and high intensity lighting. This provides the ability to monitor and detect any unauthorized attempt to breach the limited area. Whenever the weapons are moved from building to building as part of the maintenance and missile assembly process in the limited area, they are enclosed in specially designed containers and vehicles, which protect them from hostile environments.

An important component of our nuclear weapon security system is the Marine Corps security force assigned to the two facilities. The sole responsibility of the Marine Corps security force is to prevent unauthorized access or theft of the nuclear weapons, and, should that fail, to immediately recapture them. These specially screened, trained, and armed professionals are on the highest state of alert 24 hours a day. Another important element of the security program is the SSBN crew, who are responsible for and trained to protect the nuclear weapons while on the submarine. In addition, the marines, sailors, and anyone authorized access to nuclear weapons to perform their job are screened, trained and placed in our Personnel Reliability Program. This program adds assurance that only the most qualified and trustworthy people have access to nuclear weapons.

An important element of ensuring that any security system meets requirements imposed by the threat is a robust inspection, testing and exercise program. We regularly inspect and drill our systems and people to ensure that they exceed the requirements needed to protect these national assets.

Prior to the attack on the U.S.S. *Cole* in October 2000, the Navy was taking positive steps to further improve the protection of our submarines at the two bases. We have a phased plan to provide additional security improvements over the next several years.

The horrific events of 11 September highlighted additional potential threats to and vulnerabilities of both our nuclear weapons and strategic submarines. Since then, measures that were planned to be executed as part of increased threat conditions have been implemented. Measures that have been implemented in response to higher threat conditions include: activation of the auxiliary security force, additional entry inspections, additional waterfront boat patrols, increased access control measures, and temporary overflight restrictions. We continue to work on long-term solutions to counter these threats.

In summary, we have a robust nuclear weapons security system in place and we rigorously inspect and test that system to ensure that it exceeds our requirements. We continue to assess our vulnerabilities and we are making improvements to that system to counter potential new threats. It's for these reasons that I can tell you today that I have high confidence that the Navy's nuclear weapons are safe and secure.

Senator REED. Thank you very much, Admiral.
General Haackel.

STATEMENT OF BRIG. GEN. RONALD J. HAECKEL, USAF, ACTING DEPUTY ADMINISTRATOR FOR DEFENSE PROGRAMS, NATIONAL NUCLEAR SECURITY ADMINISTRATION

General HAECKEL. Mr. Chairman, Senator Allard, I'm very pleased to be here this afternoon to discuss the safety and security philosophy that guides National Nuclear Security Administration operations, as well as the decisive actions we took following the tragic events of September 11, and our on-going activities to further enhance our security posture. While I've been the acting deputy administrator for only 3 months, I've been deeply impressed with the skill, dedication, and commitment of the men and women who make up the NNSA and meet their mission requirements to implement new and tougher security practices.

The security and safety of our nuclear weapons and nuclear material stockpiles, as well as our facilities and personnel, are critical for the success of my program responsibilities. These have always been one of the highest priorities of the Department of Energy and the National Nuclear Security Administration. Our nuclear weapons complex is a one-of-a-kind operation spread over seven states and employing some 25,000 people. Each site has a distinct mission with highly specialized equipment, tooling, materials, and workforce. The security and safety of this unique enterprise is maintained through thorough and detailed procedures, with sophisticated state-of-the-art equipment, and a well trained, highly motivated security force.

The transportation of nuclear weapons and special nuclear material between our sites, and to and from our military users, is a unique challenge. As you saw this morning, when you and your staff were at Andrews Air Force Base, cargo is transported in highly modified tractor trailers operated by armed Federal agents and accompanied by other Federal agents in escort, communications, and other convoy vehicles. These agents are authorized by the Atomic Energy Act to make arrests and carry and use firearms in the performance of their duties.

The transportation fleet includes safeguard transporters, safe secure trailers, armored tractors, and escort vehicles with special safety and security features. Our safety record, over 100 million miles of over-the-road experience with no accidents causing a fatality or release of radioactive material, is a testament to the skill and dedication of these Federal agents. Of course, the nuclear weapons themselves have built-in safety features, and many incorporate unique use-control devices to ensure that an accident or abnormal environment will not lead to a nuclear yield or the scattering of radioactive material. In the highly unlikely event of an accident or incident involving nuclear materials, the NNSA also maintains special emergency response assets to contain or limit the contamination. Because of the importance of these issues, I have asked several subject-matter experts to join us this afternoon in the executive session to go into greater detail on the subjects I just touched upon.

Let me now turn to our actions following the attacks on the United States, which have dramatically changed all of our lives. For NNSA, it expanded the threats to our vital nuclear assets to include high-energy explosive attacks at multiple locations that are

well planned, sophisticated, and involve many people. Immediately following the second plane crash into the World Trade Center, and before the third and fourth crashes, the NNSA went into a heightened alert posture. We secured our weapons, our nuclear materials, our facilities, and our people. Weapon convoys went to a safe haven. All convoys were off the road in an hour and a half. Barriers were set up to restrict traffic, and anyone or anything entering our sites was carefully inspected. Emergency operation centers were immediately staffed and operated around the clock to keep communications open, perform vital coordination, and continually assess the security situation. Our emergency response teams went on heightened alert at the first moment of the crisis and were deployed to New York to assist in recovery, while others remained poised for a possible follow-on event.

NNSA personnel fully support the strengthened security measured despite some inconveniences created in the day-to-day work environment. We remain in heightened security with special emphasis on high-energy explosive threats. We expect to be at this level for some time and remain poised to return to even higher security levels if conditions should warrant. We must implement permanent measures that will better protect our people and mission, but at the same time permit us to operate effectively and efficiently. This requires us to utilize technology and to capitalize on the great capabilities within the NNSA.

With the above in mind, our NNSA administrator, Gen. John A. Gordon, USAF (Ret.), has instituted several on-going initiatives designed to further make the NNSA security posture strong and visible so as to deter terrorists. At the same time, NNSA will continue to provide support to other agencies in accordance with their needs. The week after the September 11 terrorist attack, General Gordon directed that a vulnerability assessment of our high-risk targets be completed.

This 72-hour security review rated our facilities, laboratories, and associated assets against six criteria. Those were: nuclear detonation, radiological dispersion, loss of program capability, loss of technical staff, loss of life, and costs. A prioritized list of security improvements has been compiled to address the concerns from the study and are being validated for possible supplemental funding requests.

In addition, the 90-day combat terrorism task force has been established to review headquarters and field actions to protect NNSA interests in the aftermath of the September 11 terrorist attacks. Twelve tasks have been initiated and are staffed with the best expertise available. These tasks range from deployment of a revised design basis threat document to site-by-site security reviews and vulnerability assessments.

Where are we today? Immediate actions have been taken to address the September 11 events and NNSA remains in an elevated security posture. All sites are back to work and our nuclear material convoys are moving. NNSA specialized assets remain on alert and will be deployed when needed. The NNSA combating terrorism task-force is energized and making progress. Consistent with task-force efforts, we have identified and prioritized additional actions which may require supplemental resources.

We're maintaining close ties with the intelligence and law enforcement community, and are a member of the White House Counterterrorism Task Force. All of us in the National Nuclear Security Administration recognize how vital our mission is to national security. While the recent terrorist attacks have dramatically changed things, we'll remain at the highest levels of security for the nuclear weapons and materials in our custody. Thank you for your continued support and I'll be happy to answer your questions at this time.

[The prepared statement of Brigadier General Haeckel follows:]

PREPARED STATEMENT BY BRIG. GEN. RONALD J. HAECKEL, USAF

OVERVIEW

Mr. Chairman and members of the subcommittee, the security and safety of our nuclear weapons and nuclear material stockpiles, as well as our facilities and personnel is the highest priority of the National Nuclear Security Administration (NNSA).

Our nuclear weapons complex is a one-of-a-kind operation, spread over seven states and employing some 25,000 people. Each site has a distinct mission with highly specialized equipment, tooling, materials and workforce. The security and safety of this unique enterprise is maintained through thorough and detailed procedures, training and with sophisticated state-of-the-art equipment. The transportation of nuclear weapons and special nuclear material between our sites and to and from our military users within the continental United States likewise presents us with a unique challenge that we meet by developing and using the best technology available at our plants and labs. Our success can be judged by the fact that since 1975 we have accumulated over 100 million miles of over-the-road experience with no accidents causing a fatality or release of radioactive material.

The nuclear weapons themselves have built-in safety features and many incorporate unique use control devices to ensure that an accident or abnormal environment will not lead to a nuclear yield or the scattering or radioactive material over a wide area. In the event of an accident or incident involving nuclear materials the NNSA also maintains special emergency response assets to contain or limit the contamination.

FACILITY SECURITY

The security of our nuclear sites and facilities has always employed "defense in depth" protection. The first line of defense is our protective forces which are over 3,300 strong. In addition, we have 450 special response team members trained in special recapture/recovery tactics located at our special nuclear material and weapon sites. Our protective forces are well equipped with hardened vehicles, semi-automatic handguns, assault-type weapons, body armor, digital encrypted radios, protective masks, and night vision and thermal imaging equipment.

We make use of the most sophisticated state-of-the-art perimeter and interior intrusion detection and assessment equipment along with delay entry systems at hardened storage vaults for our nuclear assets. In addition, we have hardened critical guard posts and make use of hardened guard towers at several locations. NNSA has also hardened and technologically upgraded all of its alarm stations and has compartmentalized access to sensitive facilities and nuclear assets through the use of the most advanced access control systems available. Personnel access control is monitored by visual badge checks by the protective force, badge swipes, personnel identification number, hand geometry, personal weight verification, X-ray and metal detection, or a combination of these methods.

CYBER SECURITY

All of our nuclear weapons information assets and computing resources at our various sites are protected by firewalls, intrusion detection systems, and software which automatically scans for malicious viruses. Classified assets and systems are also physically separated from the unclassified and sensitive computing systems for greater security. These cyber security defenses are continuously examined through a program of self-assessments, site peer reviews, and independent oversight organizations.

PERSONNEL SECURITY

We also have human reliability programs covering over 14,000 employees with access to nuclear material/weapons, or have been determined to occupy positions that, if abused could cause damage to the health and safety of the public, environment, our work force, and/or national security. These reliability programs require annual certification of reliability through maintenance of a top secret clearance, physiological interviews and testing, medical evaluations, alcohol and drug testing, security file reviews, and supervision and peer observations.

Our defense-in-depth approach is rigorously assessed through computer modeling and performance tested against the design basis threat through actual force-on-force exercises in the completion of a vulnerability analysis at each nuclear material/weapon site and for the transportation of our nuclear assets. The results of the vulnerability analysis are documented annually in a Site Safeguards and Security Plan approved by the operations manager and concurred in by myself. As with any critical program, the effectiveness of our facility protection postures is validated through internal as well as external independent oversight reviews.

TRANSPORTATION SECURITY

The overall management, command and control of our transportation assets are centralized in Albuquerque, New Mexico, and includes a fully staffed, 24-hours-a-day, 365-days-a-year, operations center. The center monitors vehicle status and location; and maintains real-time communications with every convoy. The center also maintains an emergency contact directory of Federal and state response organizations located throughout the contiguous United States in the event of an accident or hostile actions. Liaison is also maintained with law enforcement and public safety agencies throughout the country, making them aware of our transportation mission. Law enforcement officers are provided information to assist them in recognizing our vehicles should they be involved in an event, and what actions to take in conjunction with the actions of the Federal agents.

Cargo is transported in highly modified tractor-trailers operated by armed Federal agents and accompanied by other Federal agents in escort, communications, and other convoy vehicles. Federal agents are authorized by the Atomic Energy Act to make arrests and carry and use firearms in the performance of their duties. Federal agents are certified following a rigorous training course and receive on-the-job training the balance of their first year. Agents continue to receive in-service training throughout their careers and must continue to meet regular and demanding qualification requirements relative to weapons, tactics, physical fitness, and driving proficiency. The transportation fleet includes safeguards transporters, safe secure trailers, armored tractors and escort vehicles, which all incorporate special safety and security features. The trailers have access delay systems to deny unauthorized access to materials.

WARHEAD SECURITY

The NNSA and its laboratories take every possible measure to prevent accidents involving nuclear weapons and to prevent them from getting into the wrong hands. The enduring nuclear weapons stockpile was built from the early 1960s through the late 1980s. Some weapons alterations/modifications have been performed to address specific safety and use control concerns. Extensive joint reviews are conducted with the Department of Defense to develop a Stockpile Life Extension Program (SLEP) to refurbish weapons not only to ensure continued reliability but also to ensure that the latest safety and use control features are incorporated into our stockpile. The Nuclear Weapons Council oversees the U.S. nuclear weapons stockpile, monitors its safety and security, and provides yearly status reports to the President and Congress.

Use control features incorporated into our weapons or weapons systems are to ensure that these weapons only operate when properly authorized by the President of the United States and to prevent deliberate unauthorized use. Use control features include: Permissive Action Links, which are electronic locks inside the nuclear weapon that prevent it from being detonated until the proper externally obtained unlock code is inserted; command disable features, which permit nonviolent disablement of a nuclear weapon by destroying critical components if loss of control is imminent; and active protection systems, designed to make it possible to automatically disable critical components within the weapon upon sensing an intrusion by an adversary.

Safety features incorporated into our nuclear weapons include: Enhanced Nuclear Detonation Safety (ENDS), Insensitive High Explosives (IHE), and Fire-Resistant

Pits (FRP). ENDS prevents the electrical system within the weapon from accidentally firing the detonators if involved in an accident. All but one of the nuclear weapons types in the stockpile have ENDS; the one that does not employ ENDS and that system is scheduled for retirement. IHE, unlike conventional high explosives, is highly resistant to unintended detonation, significantly reducing the likelihood of scattering radioactive materials in an accident. Only four weapons types (missile warheads) contain conventional high explosives. To mitigate the unlikely event of a high temperature fire involving a nuclear weapon, three of the last four weapon designs have incorporated a pit coating capable of providing additional safety in fire accident scenarios. Overall, these measures are judged to limit the chance of a weapon producing a nuclear yield if involved in an accident to one chance in a million. They also are judged to limit the chance of a weapon pre-arming, arming, launching, or releasing in all normal and credible abnormal environments to one in a billion and one in a million, respectively.

EMERGENCY RESPONSE

In the event of a nuclear or radiological incident, the Department maintains specialized teams which can be readily deployed to respond to the entire spectrum of nuclear and radiological issues. The Nuclear Emergency Support Team (NEST), is an umbrella organization of specialized crisis response assets. The Accident Response Group is a team of scientific and technical experts ready to react to any accident or incident involving one of our own nuclear weapons. The Search Response Team conducts searches via ground and air for lost, stolen, or missing weapons, devices, or nuclear material. There is also a Nuclear/Radiological Advisory Team of subject matter experts here in Washington, D.C. to support the FBI and the Department of State. There are also advisory teams to support the Department of Defense special mission units and to advise and assist in the neutralization and movement of nuclear devices. It is important to note that NEST operates only in areas secured by law enforcement or the military.

In addition to NEST, the Department also maintains some twenty-six radiological assistance teams arrayed across the Nation to conduct radiological measurements, to characterize releases and to provide advice and guidance to state and local authorities. The Department also provides expert medical assistance for radiation exposure accidents through our facility in Oak Ridge, Tennessee. We also establish and manage the coordination of all Federal radiological monitoring and assessment functions for any nuclear or radiological incident. All the individuals on these teams are volunteers from across the complex. They are scientists, physicists, engineers, technicians, and other specialists that volunteer for this duty. We could not perform these vital functions without them.

SEPTEMBER 11

The terrorist events of September 11, 2001, have changed all of our lives. For NNSA it expanded the threats to our vital nuclear assets to include high energy explosive attacks at multiple locations that are well planned and sophisticated, and involve many people. Let me review the actions taken to address this new threat and on-going efforts to further mitigate this escalated threat.

Immediately following the second plane crash into the World Trade Center, and before the third and fourth crashes, the NNSA went to full alert. We secured our weapons, our nuclear materials, our facilities and our people. Weapon convoys went to safe havens and all were off the roads in an hour and a half. Numerous barriers were set up to restrict traffic, and anyone or anything entering our sites were carefully inspected. Emergency operations centers were immediately staffed and operated around-the-clock to keep communications open, perform vital coordination, and continually assess the security situation. Our emergency response teams went on heightened alert at the first moment of the crisis and were deployed to New York to assist in recovery while others remained poised for a possible follow-on event.

Our protective forces are highly trained, well equipped and remain energized and motivated even in light of long hours of work. Operations Offices, Plant and Laboratory Directors, and staff are vigilant and prepared for high-energy explosive attacks that were not previously contemplated.

NNSA personnel fully support the strengthened security measures despite some inconveniences created in the day to day work environment. We remain at heightened security with special emphasis on high-energy explosive threats. We expect to be at this level for some time and remain poised to return to even higher security levels if conditions should warrant.

We must implement permanent measures that will better protect our people and mission but at the same time permit us to operate effectively and efficiently. This

requires us to utilize technology and to capitalize on the great capabilities resident within the NNSA.

With the above in mind, General Gordon has instituted several on-going initiatives designed to further make the NNSA security posture strong and visible so as to deter terrorists. At the same time, NNSA will continue to provide support to other agencies in accordance with their needs. We will apply the unique capabilities of our laboratories and plants in seeking innovative approaches to strengthening NNSA and U.S. counterterrorism efforts.

The weekend after the September 11, 2001, terrorist attack, General Gordon directed that a vulnerability assessment of our high-risk targets be completed. This "72-hour security review" rated our facilities and laboratories and associated assets against six criteria (nuclear detonation, radiological dispersion, loss of program capability, loss of technical staff, loss of life, and costs). A prioritized list of security improvements has been compiled to address the concerns from the study and are being validated for a supplemental funding request. We plan to apply resources against the greatest needs and will see the work through to completion.

In addition, a 90-day Combating Terrorism Task Force (CTTF) has been established to review Headquarters and field actions to protect NNSA interests in the aftermath of the terrorist attacks of September 11, 2001. Twelve tasks have been initiated and are staffed with the best expertise available. These tasks include development of a revised design basis threat document; site-by-site security review and vulnerability assessments; protection of our cyber data and resources; assessment of current nuclear materials management practices; personnel security review; transportation security review; chemical, biological, radiological and nuclear incident analysis assessment; contributions NNSA can make to other in counterterrorism; review of international programs; chemical/ biological detectors and sensors; emergency management review; and defining the complex of the future.

General Gordon has directed the NNSA to protect ourselves, continue to perform our mission, and assist others where possible.

To *protect ourselves* we want security forces that are so efficient and effective, and facilities that are so strong that a terrorist will see no chance of success and take his business elsewhere. The weapons and material we have custody of demand no less.

It is understood that the war on terrorism will last for years and therefore one must be able to *accomplish our mission* in an enhanced security environment. We must carry out normal stockpile stewardship—production, surveillance, refurbishment—and meet DOD delivery requirements.

With the great talent and the taxpayer's investment in our enterprise, we must make our skills and technology *available to others*. We will continue to keep our emergency response assets ready to deploy to assist—even as we look to improve them. We are bringing together our multitude of capabilities to make certain other agencies know how we can help with their problems. We are also looking to accelerate materials protection control and accountability work and reactor safety internationally.

So where are we today? Immediate actions have been taken to address the September 11, 2001, events and NNSA remains in an elevated security posture. However, all sites are back to work and our nuclear material convoys are moving. NNSA specialized assets remain on alert and will be deployed when needed. The NNSA Combating Terrorism Task Force is energized and making progress. Consistent with the Task Force efforts, we have identified and prioritized additional actions which will require supplemental resources. We are maintaining close ties with the intelligence and law enforcement community and are a member of the White House Counterterrorism Task Force.

All of us at the National Nuclear Security Administration recognize how vital our mission is to National Security. While the recent terrorist attacks have dramatically changed things, we will maintain the highest levels of security for the nuclear weapons and materials in our custody.

Senator REED. Thank you very much, General Haeckel, and thank you gentlemen for your testimony. We've been joined by Senator Ben Nelson. Senator, would you like to make an opening statement?

STATEMENT OF SENATOR E. BENJAMIN NELSON

Senator BEN NELSON. Thank you very much, Mr. Chairman. Thank you to all the panelists who are here today. I think most

of the questions I'm going to ask might be more appropriate in the closed session. I'm very anxious to learn as much as I can about the security of our nuclear weapons and materials. Thank you.

Senator REED. Thank you, Senator. Senator Nelson has reminded us again that this is the open session. We will reconvene in a closed session at the conclusion of the questioning period. Let me go ahead and ask a few questions and then turn to Senator Allard for his questions.

A frightening conclusion drawn from September 11 is that we no longer have only to protect against the threat of the use of nuclear weapons, we have to protect against suicidal attempts to detonate those weapons within the United States and elsewhere. That was a psychological barrier I think we crossed on September 11. Having said that, I wonder Secretary Wells, whether you've made any specific changes to policy that reflect not only that particular insight, but any other insights based on September 11?

Dr. WELLS. Mr. Chairman, we have. There actually were a number of initiatives underway before September 11 which were crystallized, if you will, by that. There's been a robust exercise program for some years that has tested different parts of the security system, and some of those have emphasized the importance of time to react. So, we have codified that into policy. In addition, we are reviewing what the postulated or design-basis threat is against which the security system should be designed, and that is in coordination—revised and been agreed upon between the Department of Energy and Department of Defense—step and we're getting that formally coordinated.

Senator REED. In terms of going forward, do you see any particular areas that need additional improvement other than those you've identified?

Dr. WELLS. I think the general area of senior-level emphasis on the areas of nuclear weapons is something that has been an important focus for each of the services. Many of us have custody, but I would expect that we will see even more of that emphasis in the future.

Senator REED. Thank you. One other question, Dr. Wells. In terms of personnel security programs, are you evaluating or re-evaluating the policy towards personnel security?

Dr. WELLS. The Personnel Reliability Program (PRP) and the two-person controls that go with it have always been, I think, one of the stronger points of the nuclear weapons security program. One of the things that we have to be cognizant of in the wake of September 11 is the possibility of an insider threat which has always been there but that crystallized after September 11. The Personnel Reliability Program gives us, through the two-person control and the checks on the reliability of the people involved, a powerful weapon against that. I think that has stood the test of time and will be able to be continued.

I think all of us, as I say, are more aware of the insider threat. That will probably get more attention. I can't tell you any policy changes at this point that will stem from that, though.

Senator REED. Thank you, Dr. Wells. Let me turn to General Haeckel. The Department of Energy has requested \$117 million in additional funds for improved security, of which \$106 million is for

nuclear weapons activities. Could you outline generally what this additional money will buy in terms of improvements? What are your areas of concern, and are there other areas that should be addressed and additional resources committed to solve those problems or allay those concerns?

General HAECKEL. Supplemental funds of \$106 million were requested. Of those funds that were requested, \$66 million were for overtime and additional protective forces across the complex. Twenty-five million of that was for cyber-security measures, such as intrusion detection and response systems. Another \$15 million was for secure transportation assets, and additional monies for those secure transportation assets that you observed today, sir.

At this time, we believe the administration's request is sufficient. We're continuing to look at the requirements and better things to do. We're continuing through our 12-team process to look at extra security measures that we think are prudent to do in the near-future, in the far-future. At that time, there may be additional supplemental activity.

Senator REED. Let me also ask, it seems that the basic operating cost of each Department has gone up. Is that the case too, as you anticipate it?

General HAECKEL. My understanding of overhead costs is that we are doing more with our existing overhead as far as headquarters personnel and field leadership is concerned.

Senator REED. You have a limited number of agents, of whom many are now working probably twice as long as they did 3 or 4 months ago in overtime.

General HAECKEL. Yes sir.

Senator REED. That is not likely to go away in the next year. That automatically means that you have to ask for increased funds. Is that a clear assumption?

General HAECKEL. Yes sir, it is. That would be something we'd have to look at very carefully. If we did submit an additional request in the future for additional security forces, guards that we do need, we would be committing to a long-term investment in those personnel costs. We would have to make arrangements for additional funding in the out-years and watch that throughout our 5-year national security plan.

Senator REED. My final question is on national infrastructure, which I know in the DOE and the DOD has been a constant struggle. Do you see yourselves coming to the point where you have to borrow from needed modernization improvements, the infrastructure, to simply pay the bills and keep the lights going for security purposes?

General HAECKEL. My desire is to have a balanced approach to the budget and do as much as we can in each of the areas. The three major areas that I'm concerned with are the production and refurbishment activities, the research and development scientific activities, and then the infrastructure and facilities activities. We are currently looking at our budget and trying to balance those to the best of our ability, doing the most important thing in each of those categories first, and walking down through that.

Senator REED. Thank you very much, General. Let me turn to ask Admiral Dwyer and General Blaisdell the same question. Does

your department have additional requirements and requests that require funds for improved security, and are these funds included in the supplemental or the budget documents that you're forwarding to your service chiefs, the Secretary of Defense, and then on to the administration? Admiral Dwyer.

Admiral DWYER. Yes, Mr. Chairman, after September 11 and even prior to September 11, after the U.S.S. *Cole* incident we were asked to put together a list to define the mitigating factors we put in place for these threats, basically in personnel, high-tech barriers, and high-tech intrusion devices, those types of things which were put into the list and that are in the supplemental as it goes forward.

Senator REED. Thank you. General Blaisdell.

General BLAISDELL. Yes, Mr. Chairman, as a matter of fact I have with me today Brig. Gen. Jim Shames, who is our director of security forces, and he will have more to say in the classified session of this hearing. General Shames, as director of security, has a nuclear security roadmap and task force that they have put together. Just recently, Air Combat Command has briefed us with combat mission needs statements. It's a little too early to put together all of the dollar figures, but suffice it to say that not only barriers but intrusion devices and several others that we'll get into in the classified session are on there, and are greatly needed to improve our capability.

Also, there is a full program on going with each of the commands as they're putting together their requirements for weapons storage areas and other opportunities. So, Mr. Chairman, I think we have a good package prepared.

Senator REED. Thank you.

Senator Allard.

Senator ALLARD. Thank you, Mr. Chairman, members of the panel. On September 11, when the attack took place, we basically considered ourselves in a peacetime mode. Since then, our country has declared war on terrorism, particularly in recent days having seen some of the papers that have been gathered from the headquarters of al Qaeda. We've become aware that nuclear weapons and nuclear materials were a high priority for at least that terrorist organization, and probably others.

In light of that, have security standards been increased since September 11? I'd like to have all four of you respond to that, if you would.

General BLAISDELL. Certainly, I'd be happy to start, Senator. In the Air Force, and you're absolutely correct on levels going up in light of what has been found from al Qaeda, we have increased our force-protection levels throughout the United States Air Force. Likewise, we have gone through a combat air patrol that you're familiar with, part of Operation Noble Eagle, in light of the intelligence that's available. Probably the best way to explain all of this is our defense in-depth concept, based on the intelligence that we get—the FBI and the inter-agency working right down to the security, the fence line, the ability to bring security forces to bear, the whole defense in-depth program, the way we work with DOE safety procedures and weapons, that whole defense in-depth program is going to try to prevent that.

Senator ALLARD. General Haeckel, do you want to elaborate on that?

General HAECKEL. The security standards were increased in DOE facilities in three different ways that I can describe to you. The first is cyber-security. We've had in recent years very good insight into cyber-security for our computer technologies. We've increased our vigilance and awareness of that.

That leads into the second area that I want to mention, which is our concern for operational security (OPSEC) both on the cyber-side, the physical side, and the day-to-day discussions making sure we protect those pieces of information that we think would give insight into our operations and of strategic nuclear materials.

Third, the physical side of it, the most visible side, as I mentioned we went into a heightened state of security condition immediately after the travesty occurred. We continue that heightened state of security for some time and then, based on our analysis of current threats, we've backed off to a more appropriate, maintainable, and sustainable security condition by increasing security entry procedures, increasing physical distance standoff from vehicle parking areas to specific buildings, and in general making our population within the Department of Energy more aware of terrorists activities that could occur and encourage reporting procedures.

Senator ALLARD. Rear Admiral Dwyer.

Admiral DWYER. Yes sir, Senator, in our weapons storage areas, our Marine Corps security force companies have always been at the highest alert, 365 days a year, 24 hours a day. So they are always at the highest threat condition and remain so during threat condition Delta and Charlie, which we had at that time. Most of the action for us is at our waterfront, where our submarines are, where we have auxiliary security forces which deployed. We increased our entry procedures into those areas and we also imposed temporary flight restrictions which limit the air traffic over these submarine bases.

Senator ALLARD. Secretary Wells, we'll let you wrap it up if you have anything else you want to add?

Dr. WELLS. From a policy perspective, Senator, since September 11 we have directed more rapid responses in the case of instincts involving possible attempts to take over a weapon. We have also taken steps to ensure that personnel assigned to nuclear weapon security duties are not drawn off for temporary duty in other areas, thus emphasizing the importance of nuclear weapons security even in the face of Operation Enduring Freedom overseas. We've also worked with the intelligence community to get a revision to the threat assessment against nuclear weapons which, of course, will permeate all of the future policy documents.

Senator ALLARD. You've done a nice job of talking about what you've done in stationary sources. I'd like to now move to mobile sources. We have some nuclear materials that necessarily have to travel through one mode or another, and my question is, have the delays caused by September 11 within the National Nuclear Security Administration had any impact in delaying other DOE shipments, for example in the Environmental Management program?

General HAECKEL. There were delays, sir. We stood down operations for security purposefully to re-group, re-orient ourselves, and

make sure we understood what potential threats were out there. Over the last couple of months, and over the next months we will regain that ground in different areas and different ways and be back on track with our program.

Senator ALLARD. On the resources that are shared between NNSA and Environmental Management, if we have delays in the NNSA, will those have an impact on the Environmental Management program and cause delays in one or the other of the two?

General HAECKEL. Sir, as Defense Programs representative, I work very closely with our Environmental Management personnel. As a matter of fact, I was just discussing this very same issue earlier this afternoon, and we are working together, instead of competing, with the limited resources we have to identify the highest priorities on a continual basis and allocate our resources for those highest priorities. But just like on my budget discussions, there are things that we want to do on the weapons program side and things we want to do on the Environmental Management side. The personnel in Environmental Management and myself are committed to making sure we get those things done on a parallel track.

Senator ALLARD. Mr. Chairman, I just wanted to wrap up with one final, short question. As you're moving these materials across the country, I assume that you're avoiding high-risk areas such as high passes where you have snow slides, or tunnels and various bridges, and I would like to hear your comment in that regard.

General HAECKEL. We can get into that in the classified session, but I have the highest confidence in our transporters, that they will make the calls on the scenes and avoid the risks that they identify as high, whether it be potential terrorists or potential snow slide, and make sure that our number one priority is that our assets are delivered carefully and precisely and safely.

Senator ALLARD. Thank you, Mr. Chairman.

Senator REED. Thank you, Senator Allard. I'd like to recognize Senator Nelson for his round of questioning and then Senator Sessions for his opening statement and his round of questioning.

Senator Nelson.

Senator BEN NELSON. Thank you, Mr. Chairman, and thank you again for calling this hearing to deal with this very important issue. We've talked primarily about weapons and the security that must be in place to protect weapons, both stationary and in transit. I'd like to ask something with respect to nuclear power plants and other nuclear material. Is there a protocol between the military, the DOE, and the NRC as it might relate to the security of that nuclear material? Anyone who might want to respond to that?

Dr. WELLS. I'm not aware of any with the NRC, Senator. Let me take that for the record and I'll get back to you.

General HAECKEL. I'll take that for the DOE side, sir.

[The information follows:]

Dr. WELLS. The only security protocol/agreement that exists between NRC and DOD is an "Industrial Security Agreement" related to the "National Industrial Security Program" (NISP).

However, Executive Order 12656, (November 18, 1988), does assign responsibilities during emergencies. In part five of the E.O., the Department of Defense is tasked "in consultation with the Secretaries of State and Energy, the Director of the Federal Emergency Management Agency, and others, as required, develop plans and capabilities for identifying, analyzing, mitigating, and responding to hazards related

to nuclear weapons, materials, and devices; and maintain liaison, as appropriate, with the Secretary of Energy and the Members of the Nuclear Regulatory Commission to ensure the continuity of nuclear weapons production and the appropriate allocation of scarce resources, including the recapture of special nuclear materials from Nuclear Regulatory Commission licensees when appropriate.”

Since the terrorist attacks on September 11, 2001, DOD, NRC, and DOE and other agencies have been cooperating extensively in response to the National emergency. This cooperation is occurring in accordance with the broad framework established under the Federal Radiological Emergency Response Plan, the Terrorism Annex of the National Response Plan, and Presidential Decision Directives 39, 62, and 63. NRC can formally request DOD assistance through the FBI to the Attorney General through the President to the Joint Chiefs and DOD.

General HAECKEL. At the present time there are no agreements or protocols between the department of Energy and the Nuclear Regulatory Commission (NRC) regarding the security of nuclear materials. However, in light of the events of September 11 and the transportation security expertise within the National Nuclear Security Administration's Office of Transportation Safeguards, both are working together on a comparability study for transportation of Category I and Category II nuclear material to allow the NRC to consider revising their transportation protection strategy. This study effort will be completed in September 2002.

Senator BEN NELSON. Sure. I think it's clear that in moving material, whether it's from a power plant—and we can in the closed session talk about spent nuclear rods and other material—but in moving the material the utmost care is obvious. It hardly needs to be stated. When I was governor of Nebraska, as you may recall or will find out, one truck tipped over in transit in the State of Nebraska for a period of time that caused more than a slight embarrassment, it was in fact a major concern. Fortunately, it was out in the middle of the sand hills where there are more cattle than people, and the threat of a terrorist incident seemed rather unlikely.

But I am concerned also about any kind of movement of other material, not just weapons, if we're going to be dealing with some of the concerns that have been offered and suggested with respect to not detonating nuclear devices, but those that spread nuclear material. So I will take that up in the closed session. Thank you, Mr. Chairman.

Senator REED. Thank you very much, Senator Nelson. Senator Sessions, if you'd like to make an opening statement and your questions, please go ahead.

STATEMENT OF SENATOR JEFF SESSIONS

Senator SESSIONS. Thank you, Mr. Chairman. Thank you for having this hearing. In recent weeks, I have just personally developed a very great concern about the danger of proliferation of nuclear weapons around the world. We particularly have to worry, I think, about the situation in the Former Soviet Union (FSU). I do not believe we are effectively meeting that challenge. I think that we're going to need to be better at meeting it. There are a lot of things that could be done to improve our effort in that regard, in partnership with the FSU, that could benefit both of us and help ensure that these kinds of weapons do not find themselves into the hands of terrorists like bin Laden.

Obviously he would like to have had those kinds of weapons. His network would like to have them, and so we need to work on that. I think that also puts a burden on us, as a responsible world leader, to make sure our weapons are secure, and to protect the interests of the United States.

Let me ask one question. The President has just talked about reducing the number of operationally-developed weapons to the range of 1,700 to 2,200, which would mean that we'll be de-commissioning some weapons. Maybe Secretary Wells would be the appropriate person to ask: What kind of stresses does that put on you and those that will be involved in that? Do you foresee extra funding or other challenges that might arise? If you've answered that, I apologize.

Dr. WELLS. I think, Senator, clearly there will be costs associated with the draw-down of the overall weapons—the weapons we retire. It puts a premium on putting additional security on the weapons that remain. We are preparing a package to put in the counterterrorism supplemental for additional research and development on the security of nuclear weapons to support this sort of thing.

Senator SESSIONS. Research and development in how to be more successful or better?

Dr. WELLS. How to apply new technologies, how to apply in denial of access and keeping the weapons safe.

Senator SESSIONS. What about the draw-down on destruction, on rendering them inoperable? What is the mechanism of doing that and what kind of costs could be involved?

Dr. WELLS. Let me refer that to the NNSA, if I may.

General HAECKEL. Yes, sir, we've been looking at that for a couple of years as a case that may occur. We are currently devising and integrating a plan that we will execute over the next several years. Some of the things that we're looking at are the increased number of security personnel that we'll need, increased storage capacity that we may need, and also an increased number of movements that drives the security force personnel also, but increased number of movements and possible convoy assets that we would need.

Senator SESSIONS. That would be in the short term, would it not? Once the weapons are de-commissioned it should be easier and less expensive. Will savings balance off the costs, I'll guess I'll ask it that way, in the long run?

General HAECKEL. No, sir, if I have a fleet of trucks, if I have 5,000 trucks or 1,700 trucks there's still a certain amount of mechanics that I need to service those, and spare parts that I need. So I don't see a one-for-one decrease in the overhead expenses, even if we do decrease the number of weapons that the United States currently has. So, as far as I know, as far as I have researched so far, it's not a one-for-one savings. There's still expenses in maintaining a stockpile that we'll have to face up to in the far term. In the near term, there are more expenses and more things that we'll have to do to make that happen.

General BLAISDELL. If I can help the General there, Senator, you may recall we were going to retire the Peacekeeper (MX) missile. Those particular warheads, in other sessions when I was here with Admiral Mies, I think with you, we mentioned that those are going on Minuteman missiles. So there will be some movements that the DOE needs to help us with, and there is a drawdown cost associated with taking Peacekeeper missiles off alert. There is also a study ongoing, and I think this is where your question is, there's

an ongoing study from the requirements side, from the shooters' perspective, to our supplier. How many are inactive and how many are responsive, and we will have more to say about that once the Nuclear Posture Review comes to you all at the end of the month.

Senator SESSIONS. Thank you, Mr. Chairman.

Senator REED. Thank you very much, Senator Sessions. Thank you very much, General, for your testimony.

For the closed portion of this hearing, we will move to 232A of the Russell Building. This session is only for those with appropriate clearances. I thank you all, and this open session is concluded.

[Whereupon, at 3:23 p.m., the subcommittee adjourned and reconvened in closed session.]

